

**George Mason University**  
**College of Education and Human Development**  
PhD in Education – Exercise, Fitness and Health Promotion Specialization  
EFHP 811 (001) – Motor Learning and Control  
3 Credits, Spring 2020  
Friday: 7:30AM – 10:30AM  
Katherine Johnson Hall Room 212 | Science & Technology Campus

**Faculty**

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**Prerequisites/Corequisites**

Admission to the PhD in Education Program or Permission of Instructor

**University Catalog Course Description**

Examines motor control and learning theories and analyzes motor skill development including the roles of information processing, practice, feedback, and motivation.

**Course Overview**

The course is designed to teach students the advanced principles and concepts of motor control and learning so they might apply it to their future practice.

**Course Delivery Method**

This course will be delivered using a seminar format.

**Learner Outcomes or Objectives**

This course is designed to enable students to do the following:

1. Summarize motor control and learning concepts and theories
2. Appraise critical issues in the motor control and learning literature
3. Integrate motor learning theories to explain motor skill performance and learning
4. Synthesize the role of motor control and learning in information processing, practice, feedback, and motivation
5. Analyze how motor control and learning concepts influence motor performance
6. Elaborate on practical applications of motor control and learning
7. Develop intervention plans to apply motor control and learning concepts to optimize human movement

**Required Texts**

Schmidt and Lee. Motor Control and Learning: A Behavioral Emphasis. Human Kinetics. 6th edition. 978-1492547754

## Course Performance Evaluation

Students are expected to submit all assignments on time in the manner outlined by the instructor (e.g., Blackboard, Tk20, hard copy).

- **Assignments and Examinations**

- **Final Examination:** Students 1 final examination. Examinations may include, but not be limited to multiple choice, true-false questions and written short answer essays.
- **Curriculum Portfolio:** Students will prepare a portfolio which will include PowerPoint presentations, lesson plans and quizzes corresponding to 8 teaching topics covered during the class. Detailed instructions will be provided to students at the start of the semester.
- **Teaching Presentation:** Students will provide 1 teaching presentation during the semester. The teaching presentation will consist of a 20 to 30-minute lecture & discussion. Detailed instructions will be provided to students at the start of the semester.
- **Research Project:** The research project will provide experience in developing an in-depth understanding of motor learning and control with application to an issue you are interested in. It also stimulates critical thought process to develop the methodology of a study to assess that problem. The project is intended to give students hands-on, practical experience with concepts that are covered in class and to develop both written and oral communication.
- **Article Presentation:** Students will present 2 articles to the class during the semester. The article presentations will expose students to past and current research on an overarching topic covered that day in class. Detailed instructions will be provided to students at the start of the semester.

- **Course Performance Evaluation Weighting**

The course will be graded on a total of 100 points:

ASSESSMENT METHOD	POINTS
Final Examination	10
Curriculum Portfolio & Teaching Presentation	40
Research Project & Presentation	40
Article Presentations	10
<b>TOTAL</b>	<b>100</b>

- **Grading Policies**

The student's final letter grade will be earned based on the following scale:

Grade	Percentage
A	94 – 100%
A-	90 – 93%
B+	88 – 89%
B	84 – 87%
B-	80 – 83%
C	70 – 79%

F	0 – 69%
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Note: Although a B- is a satisfactory grade for a course, students must maintain a 3.00 average in their degree program.

### Professional Dispositions

See <https://cehd.gmu.edu/students/policies-procedures/>

### Class Schedule

Week	Topic	Chapter/Assignment Due Date
1 – 1/24	Introduction to Motor Learning & Motor Control	Chapter 1 & 2 Articles on Blackboard
2 – 1/31	Teaching Topic #1: Human Information Processing  Research Article Presentations TBD	Chapter 3  <b>Chapter 3 Teaching Materials Due</b>
3 – 2/7	Teaching Topic #2: Attention and Performance  Research Article Presentations TBD	Chapter 4  <b>Chapter 4 Teaching Materials Due</b>
4 – 2/14	Teaching Topic #3: Motor Learning Concepts and Research Methods  Research Article Presentations TBD	Chapter 10  <b>Chapter 10 Teaching Materials Due</b>
5 – 2/21	Teaching Topic #4: The Learning Process  Research Article Presentations TBD	Chapter 13  <b>Chapter 13 Teaching Materials Due</b>
6 – 2/28	Teaching Topic #5: Conditions of Practice  Teaching Topic #6: Augmented Feedback	Chapter 11 & 12  <b>Chapter 11 Teaching Materials Due</b>  <b>Chapter 12 Teaching Materials Due</b>

7 – 3/6	Teaching Topic #7: Retention and Transfer  Teaching Topic #8: Individual Differences and Capabilities ( <i>if needed</i> )	Chapter 14 & 9  <b>Chapter 14 Teaching Materials Due</b>  <b>Chapter 9 Teaching Materials Due</b>
8 – 3/13	<b>Spring Break</b>	
9 – 3/20	Research Project Assigned & Discussed  Sensory & Central Contributions to Motor Control  Research Article Presentations TBD	Chapter 5 & 6
10 – 3/27	Principles of Speed & Accuracy, Coordination  Research Article Presentations TBD	Chapter 7 & 8
11 – 4/3	Coordination & Synergies  Research Article Presentations TBD	Chapter 8
12 – 4/10	Project Data Collection	
13 – 4/17	Optimization in Motor Control  Research Article Presentations TBD	Articles assigned by instructor
14 – 4/24	Clinical Application of Motor Learning and Control Principles  Debate: What is controlled by CNS when performing movements?  Research Article Presentations TBD	Chapters and articles assigned by instructor
15 – 5/1	Research Project Presentations	<b>Presentation Due</b>
16	<b>Final Exam</b>	

## Core Values Commitment

The College of Education and Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles: <http://cehd.gmu.edu/values/>.

## GMU Policies and Resources for Students

### *Policies*

- Students must adhere to the guidelines of the Mason Honor Code (see <https://catalog.gmu.edu/policies/honor-code-system/> ).
- Students must follow the university policy for Responsible Use of Computing (see <https://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>).
- Students are responsible for the content of university communications sent to their Mason email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students **solely** through their Mason email account.
- Students with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor (see <https://ds.gmu.edu/>).
- Students must silence all sound emitting devices during class unless otherwise authorized by the instructor.

### *Campus Resources*

- Support for submission of assignments to Tk20 should be directed to [tk20help@gmu.edu](mailto:tk20help@gmu.edu) or <https://cehd.gmu.edu/aero/tk20>. Questions or concerns regarding use of Blackboard should be directed to <https://its.gmu.edu/knowledge-base/blackboard-instructional-technology-support-for-students/>.
- For information on student support resources on campus, see <https://ctfe.gmu.edu/teaching/student-support-resources-on-campus>

### **Notice of mandatory reporting of sexual assault, interpersonal violence, and stalking:**

As a faculty member, I am designated as a “Responsible Employee,” and must report all disclosures of sexual assault, interpersonal violence, and stalking to Mason’s Title IX Coordinator per University Policy 1202. If you wish to speak with someone confidentially, please contact one of Mason’s confidential resources, such as Student Support and Advocacy Center (SSAC) at 703-380-1434 or Counseling and Psychological Services (CAPS) at 703-993-2380. You may also seek assistance from Mason’s Title IX Coordinator by calling 703-993-8730, or emailing [titleix@gmu.edu](mailto:titleix@gmu.edu).

**For additional information on the College of Education and Human Development, please visit our website <https://cehd.gmu.edu/students/> .**